

## **REMARKS**

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

### **Claim Amendments**

Claim 1 has been amended to define the acid-soluble soybean protein as a soybean protein having at solubility of 80% or more at pH 3.0 to 4.5. Support for this amendment is found on page 6, lines 8-10 of Applicants' specification.

Claim 1 has also been amended to recite that a gel is formed by gelation of the acid-soluble soybean protein. Support for this amendment is found on page 18, lines 19-20 of Applicants' specification.

Therefore, no new matter has been added to the application by these amendments.

### **Patentability Arguments**

The patentability of the present invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

### **Rejection Under 35 U.S.C. § 103(a)**

The rejection of claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over Hunter (U.S. 3,749,588) is respectfully traversed.

### **The Position of the Examiner**

The Examiner takes the position that Hunter teaches a process for producing acidic gel foods comprising soy protein at about 0.3 to 10 wt% protein, and an anionic polymer (pectin) in an amount ranging from 12 to 20 wt%. Further, the Examiner states that the gel food of the reference may be acidified with citric acid or any acceptable acid to obtain the desired pH.

The Examiner also states that Hunter speaks to the process by which the acid-soluble soy-protein is produced, stating that the process yields 67% protein that is soluble at pH 3 and two-thirds of the protein produced by the process may be added to the jelly. The Examiner then states that the acid-soluble protein added to the jelly would thus be expected to be entirely soluble at pH 3 as the

insoluble portion would not be added.

The Examiner also states that Hunter teaches the solution without the protein is heated to its boiling point (100°C), and then cooled before the addition of the protein so that the protein is not denatured. The Examiner admits that Hunter fail to state to what temperature the solution is cooled, but states that the combined mixture is allowed to cool, indicating that the mixture is still reasonably warm when the protein is added. The Examiner asserts that it would be expected that the solution would form a partial gel at temperatures greater than 60°C , at which point the protein would be added.

*Applicants' Arguments*

Applicants respectfully disagree with the Examiner's position for the following reasons.

Hunter discloses that the commercially available soybean protein (Edi-Pro N) is 67% soluble at pH of 3.0 and only 1.5% soluble at pH of 4.0. (Please see column 3, lines 17-21 of Hunter, Emphasis added.) Thus, although the soybean protein is an acid-soluble soybean protein at pH 3.0, it is an acid-insoluble soybean protein at pH 4.0, i.e., in the vicinity of the isoelectric point. This is quite similar to a conventional soybean protein isolate, and thus it can be said that the soybean protein disclosed in Hunter is a conventional soybean protein isolate.

On the contrary, the acid-soluble soybean protein of Applicants' invention is a soybean protein having a solubility of 80% or more at pH 3.0 to 4.5, as recited in Applicants' amended claim 1. Therefore, the acid-soluble soybean protein of Applicants' claims is clearly distinguished from the soybean protein of Hunter, and it is clear that Hunter does not teach or suggest the acid-soluble soybean protein of Applicants' claims.

In Hunter, it is critical that the raw materials are divided into two portions, i.e., a pectin solution and a protein solution, and the pectin solution is boiled, followed by cooling to form a partial gel of pectin prior to mixing with the protein solution. (Please see claim 1 and column 3, line 54 - column 4, line 7 of the reference.) These complicated steps are employed so as to avoid denaturation of the protein and decrease in nutritional value. (Please see column 3, line 65 - column 4, line 2 of the reference.)

In this respect, although the Examiner states that the temperature (greater than 60°C) could be maintained for 10 minutes or more in order to affect the desired final gelled texture (see page 3, paragraph 8 of the Office Action), Hunter actually teaches to "cool enough so that the protein isolate is not denatured". (Please see column 3, lines 64 – 65 of the reference.) Therefore, according to this clear

teaching, a person of ordinary skill in the art would never maintain the temperature at greater than 60°C for 10 minutes or more after mixing with a protein solution, contrary to the Examiner's assertion. In fact, it should be noted that pectin does not form a gel only by heating, but rather first forms a gel by cooling after dissolving it with heating. Therefore, maintaining the pectin solution at a high temperature, as proposed by the Examiner, makes no sense for the formation of a gel. Accordingly, it is clear that Hunter fail to teach or suggest that the heating of a protein, as required by Applicants' claims.

As described in page 18, lines 19-22, and recited in Applicants' claims, the gel foods of the present invention are produced by the gelation of the acid-soluble soybean protein itself with heating. This is absolutely different from the teachings of Hunter, which fail to teach or suggest Applicants' invention.

For these reasons, the invention of claims 1-6 is clearly patentable over Hunter.

#### **Double Patenting Rejection**

The Examiner has provisionally rejected claim 1 for obviousness-type double patenting as being unpatentable over claim 7 of co-pending Application No. 10/585,661. Applicants kindly request that the Examiner hold this rejection in abeyance pending an indication that claim 1 of the present application is otherwise in condition for allowance.

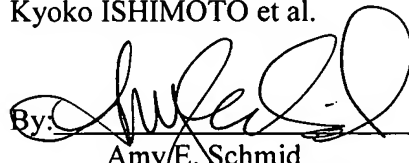
**Conclusion**

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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